REMARKS

Applicants note that claims 21-24 have been previously canceled.

By the above amendment, each of independent claims 1, 8, 13 and 18 have been amended to recite the feature that the substrate having the orientation film formed thereon also has at least a portion of a common electrode and a pixel electrode formed of a same material and provided on the substrate. Additionally, new dependent claims 25-28 have been added, which define the same material as being ITO and new independent claims 29 and 30 have been added, which are directed to a liquid crystal display device including an orientation film formed on a substrate having at least a portion of a common electrode and a pixel electrode formed of a same material and provided on the substrate, while further defining the feature of the orientation film.

Applicants note that as illustrated in Fig. 6 of the drawings of this application and as described at pages 19 and 20 of the specification, thin film transistors are formed on one of the substrates having a pixel electrode 4 and a common electrode 1 provided thereon and an orientation film is also formed thereon to thereby provide a TFT substrate. As described at page 20, Figs. 6A to 6C are diagrams of a unit pixel portion of the TFT substrate with liquid crystal orientation controllability being added to the orientation film by an optical orientation technique in accordance with the present invention. As described at page 20, lines 10-27, the thin-film transistor (TFT) 14 is made up of a pixel electrode 4 and other portions and part 1b of the common electrode 1, which is the portion used in driving the liquid crystal, is connected via a through-hole to the part 1a of the common electrode, while the pixel electrode is also contacted via a through-hole at a transistor section thereby providing part 4b of the pixel electrode. This part 1b of the common electrode and the part 4b of the pixel electrode are formed using indium tin oxide (ITO). Thus, as illustrated in Fig. 6 and as described in the specification, in accordance with the present invention, at least a portion of a common electrode and a pixel electrode

formed of a same material is provided on the substrate together with the orientation film which is subject to irradiation by polarized UV light as recited in the claims of this application.

According to the present invention, the liquid crystal display is driven by an electric field between the common electrode and the pixel electrode and therefore, the status around the pixel electrode and the common electrode is very important. When such status is different, an unbalance is likely to occur. For example, such unbalance causes charge accumulation which may have various bad effects such as image sticking, flicker and decrease of contrast ratio. Furthermore, the status of the orientation film is also important since it determines the initial status of the liquid crystal molecules. Therefore, the status of the orientation film around the common electrode and the pixel electrode should also be substantially the same. When using a manufacturing process wherein the orientation film is irradiated by polarized UV light, the status of the orientation film is controlled by the UV light. A part of the light irradiated to the orientation film is reflected by material below the orientation film and affects the status of the orientation film. Therefore, in order to make the status of the orientation film around the common electrode and around the pixel electrode substantially equal, the following conditions is necessary:

> (1) both the common electrode and the pixel electrode are provided on the same substrate; and
>
> (2) at least a portion of the common electrode and the pixel electrode are made of the same material.

By providing at least portions of the common electrode and the pixel electrode of the same material, the reflectivity of the counter electrode and the pixel electrode can be the same, such that the orientation film formed on or over the common electrode and the pixel electrode can be provided with the same status by the UV light irradiation. Applicants note that as described at page 19, lines 25-27, in addition to the formation of portions of the common electrode and the pixel electrode with ITO as pointed out above, chromium is a metal which is used for the pixel electrodes and the common

electrode. Since the power of the UV light may shift from time to time, in accordance with the features of the present invention, the orientation film on or over the common electrode and the pixel electrode is irradiated simultaneously to enable same status and thus, the aforementioned features as now recited in the independent and dependent claims of this application enable unbalance in the process or in the liquid crystal display with an orientation film controlled by UV light, which features are not disclosed or taught in the cited art, as will become clear from the following discussion.

The rejection of claims 1 and 4-24 under 35 U.S.C. 103(a) as being unpatentable over Gibbons et al (U.S. 5,817,743) in further view of Gibbons et al (U.S. 6,061,138) and Tanaka (U.S. 5,893,990) and Kusumoto et al (U.S. 6,027,960) such rejection is traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

It is noted that noting that claims 21-24 were canceled in the Amendment filed February 14, 2003, such that the rejection thereof is moot.

As to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

> The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Irrespective of the Examiner's position concerning the cited art and, in particular, Gibbons et al (U.S. 5,817,743), applicants submit that this patent and the other cited art fails to disclose or teach in the sense of 35 U.S.C. 103 the features of a substrate having a common electrode and pixel electrode formed on the substrate with an orientation film, and that at least portions of the common electrode and the pixel electrode are formed of the same material in which the orientation film is irradiated by polarized UV light in the manner as recited in the claims of this application. More particularly, while Gibbons et al (U.S. 5,817,743) discloses a substrate 1 as illustrated in Fig. 1 of the drawings of this application and as described at col. 19, having a transparent electrode 2 of ITO provided thereon with an optical alignment layer 3 on each of the substrates, it is apparent that in the arrangement illustrated in Fig. 1, while the electrode 2 on one of the substrates

operates as a pixel electrode, the electrode 2 on the other of the substrates operates as a common electrode, there is no disclosure or teaching of both a common electrode and a pixel electrode being provided on the same substrate with the orientation film, which is subjected to irradiation by polarized UV light in the manner defined, and in which at least portions of the common electrode and the pixel electrode are formed of the same material and providing the improvements as described above. Thus, applicants submit that each of the independent claims of this application reciting the aforementioned features patentably distinguish over this cited art in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

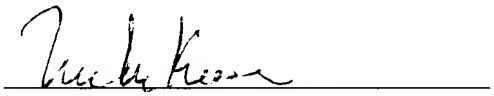
Applicants note that in setting forth the rejections with regard to other claimed features, the Examiner recognizes deficiencies in the cited art and contends that it is well known and obvious to provide various recited features, contending that some of the features recited represent discovery an optimum value of a result effect variable which involves only routine skill in the art. Applicants submit that such positions by the Examiner have been rejected by the courts pointing out that "obvious to try" is not the standard of 35 U.S.C. 103. See In re Fine, supra, and that it is not proper to merely indicate that features are well known without citing art supporting the position concerning what is "well known". See In re Lee, supra. Thus, it is apparent that the Examiner's position under 35 U.S.C. 103 is improper, and that none of the cited art disclose or teach the features as now recited in independent claims 1, 8, 13 and 18 and newly presented independent claims 29 and 30 and the dependent claims thereof.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to Deposit Account No. 01-2135 (501.36702CX2) and please credit any excess fees to such deposit account.

Respectfully submitted,



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